REMARKS

In response to the Office Action dated May 23, 2005, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims.

Claims 1-14 were rejected under 35 U.S.C. § 101, on the grounds that they were considered to be directed to non-statutory subject matter. With respect to claims 1-13, the Office Action states that the claimed method steps "can be practiced mentally in conjunction with pen and paper." However, claim 1 explicitly recites that the claimed method is performed "in a vector processing computer system." Hence, the claims are directed to a concrete and tangible implementation of the invention, and not merely mental steps that are practiced with a pen and paper. Further in this regard, claim 1 recites the steps of "buffering" a first data stream, and "storing" the results of the convolution sums. These claims clearly recite operations that are carried out within the context of a computer, and not merely a mental process.

Furthermore, claims 6, 7, 9 and 10 specifically recite that the signal on which the convolution is performed is a video or audio signal. Thus, these claims recite specific physical phenomena that are transformed outside the computer.

Accordingly, it is respectfully submitted that claims 1-13 are directed to statutory subject matter. However, to advance the prosecution of the application, claim 1 has been amended to recite that the claimed method is directed to the processing and reproduction of information contained in an information signal, e.g. a video signal or an image. The final step of the claimed method constitutes the reproduction of the information processed by the claim steps, e.g. display of the image or reproduction of the video. Support for these changes can be found in the specification, for example, in paragraphs [0002] and [0006].

With respect to claim 14, the Office Action states that this system claim does not recite a specific machine. The basis for this statement is not understood. First, it is not apparent what the Examiner means by a "specific" machine. This term does not appear in 35 U.S.C § 101. Rather, the statute defines patentable subject matter as "any new and useful process, machine, manufacture, or composition of matter...."

Second, it is respectfully submitted that claim 14 recites a "machine" within the meaning of the statute. The claim recites a number of different elements that are set forth in means-plus-function format, e.g. "means for buffering," "means for aligning," "means for performing convolution sums," etc. Each of these means reads, for example, on the CPU 112 as it executes respective sets of instructions stored in the RAM 118 for performing the recited functions. This claimed structure constitutes a "machine" within the meaning of 35 U.S.C § 101.

Accordingly, it is respectfully submitted that claims 1-14 are directed to statutory subject matter. If the rejection is not withdrawn, the Examiner is requested to explain how the steps of claims 1-13 can be practiced with pen and paper.

With respect to claim 14, the Examiner is requested to explain what is meant by the requirement for a "specific" machine, and the basis for such a requirement.

All pending claims were rejected under 35 U.S.C. § 103 as being unpatentable over each of the Wang et al., Gardner and Torger et al. publications cited in the Information Disclosure Statement. With respect to each reference, the Office Action acknowledges that the reference "does not show the detail steps/hardware as claimed." The rejection then goes on to apparently contradict itself, stating that it would be obvious to design the claimed invention according to the teachings of the reference "because the proposed parallel-decomposition

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algorithm technique discloses a detail for performing convolution *as claimed*" (emphasis added). In other words, the statement of rejection appears to be acknowledging, on one hand, that the reference does not disclose the claimed subject matter, but then appears to suggest that the reference does disclose the claimed subject matter.

In any event, it is respectfully submitted that the rejections do not meet the requirement for a prima facie case of obviousness. As set forth in M.P.E.P. §2143, three basic criteria must be met to establish a prima facie case of obviousness. The third criterion is that "the prior art reference... must teach or suggest all the claim limitations." As further stated in M.P.E.P. §2143.03, "All words in a claim must be considered in judging the patentability of a claim against the prior art," citing *In re Wilson* 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The Office Action has not shown where *any* of the claim limitations are taught or suggested by the cited references.

For example, with respect to claim 1, the Office Action does not identify how any of the three references are being interpreted to suggest the steps of buffering a data stream into multiple data chunks, aligning the data chunks so that the first bit of each data chunk is aligned in the same position within multiple respective vectors, and performing convolution sums on each data chunk simultaneously. Similar considerations apply to claims 14 and 15. Claim 16 recites a vector processing system having a memory that receives and stores multiple vectors where each vector comprises a respective data chunk of a first data stream with the first bit of each data chunk being aligned in the same position, and a vector processor that performs a convolution sum on each of the stored vectors simultaneously. Again,

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performs a convolution sum on each of the stored vectors simultaneously. Again, the Office Action does not identify where any of the three cited references teaches or suggests this claimed subject matter.

The rejection appears to be based on the general proposition that each of the three references discloses a parallel-decomposition algorithm, and that the claimed subject matter would be obvious from such a teaching. It is respectfully submitted that this form of broad-brush rejection of the claims does not meet the requisite burden for showing a prima facie case of obviousness. In particular, it does not explain where the references teach or suggest *all* the claim limitations, as required by the standard set forth in the M.P.E.P.
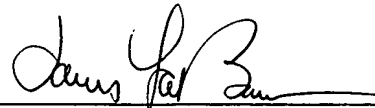
Reconsideration and withdrawal of the rejections, and allowance of all pending claims are respectfully requested.

Respectfully submitted,

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